

In the claims:

1. **(Currently Amended)** An isolated antibody that selectively binds to a polypeptide selected from the group consisting of:
 - a) a polypeptide encoded by a nucleic acid molecule which hybridizes in 0.1 x SSC at 68°C to a nucleic acid molecule comprising SEQ ID NO:1, wherein 1) the polypeptide is a GPCR, 2) failure to express the polypeptide results in embryonic lethality in *Drosophila*, and 3) hypomorphic expression of the polypeptide increases resistance to heat stress in *Drosophila*;
 - b) a polypeptide comprising an amino acid sequence which is at least 85% homologous to the amino acid sequence of SEQ ID NO:2, wherein 1) the polypeptide is a GPCR, 2) failure to express the polypeptide results in embryonic lethality in *Drosophila*, and 3) the polypeptide modulates the effect of hypomorphic expression of the polypeptide increases resistance to heat stress in *Drosophila*; and
 - c) a polypeptide comprising amino acid residues 1 to 200 of SEQ ID NO:2.
2. **(Original)** The antibody of claim 1, wherein the antibody is polyclonal.
3. **(Original)** The antibody of claim 1, wherein the antibody is monoclonal.
4. **(Currently Amended)** A kit useful for the detection of a polypeptide, the kit comprising a carrier containing one or more containers comprising a first container containing an antibody

a) a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes in 0.1 x SSC at 68°C to a nucleic acid molecule comprising SEQ ID NO:1, wherein 1) the polypeptide is a GPCR, 2) failure to express the polypeptide results in embryonic lethality in *Drosophila*, and 3) hypomorphic expression of the polypeptide increases resistance to heat stress in *Drosophila*;

b) a polypeptide comprising an amino acid sequence which is at least 85% homologous to the amino acid sequence of SEQ ID NO:2, wherein 1) the polypeptide is a GPCR, 2) failure to express the polypeptide results in embryonic lethality in *Drosophila*, and 3) the polypeptide modulates the effect of hypomorphic expression of the polypeptide increases resistance to heat stress in *Drosophila*; and

c) a polypeptide comprising amino acid residues 1 to 200 of SEQ ID NO:2.

6. (Original) The kit of claim 4, wherein the antibody is a human antibody.

7. (Original) The kit of claim 6, wherein the antibody is monoclonal.

8. (Original) The kit of claim 6, wherein the antibody is polyclonal.

9. (Previously Presented) An isolated antibody or fragment thereof that selectively binds to:

a) a polypeptide comprising GPCR amino acid

c) a polypeptide consisting of an antigenic fragment of SEQ ID NO:2; or

d) a polypeptide consisting of a fragment of SEQ ID NO:2, wherein said fragment comprises at least 50 contiguous amino acid residues of SEQ ID NO:2.

10. (Previously Presented) The antibody of claim 9, which is a monoclonal antibody.

11. (Previously Presented) The antibody of claim 9, which is a polyclonal antibody.

12. (Previously Presented) The antibody of claim 9, which is a humanized antibody.

13. (Previously Presented) The antibody or fragment thereof of claim 9, which is a human antibody.

14. (Previously Presented) The antibody or fragment thereof of claim 9, which is a single chain antibody.

15. (Previously Presented) A composition comprising the antibody of claims 1 or 9 and a pharmaceutically acceptable carrier.

16. (Previously Presented) A hybridoma cell line that produces a monoclonal antibody according to claim 1 or claim 9.

17. (Previously Presented) An isolated antibody or fragment thereof produced by immunizing an animal with:

b) a polypeptide comprising amino acid residues 1 to 200 of SEQ ID NO:2;

c) a polypeptide consisting of an antigenic fragment of SEQ ID NO:2; or

d) a polypeptide consisting of a fragment of SEQ ID NO:2, wherein said fragment comprises at least 50 contiguous amino acid residues of SEQ ID NO:2,

wherein the antibody specifically binds to the polypeptide comprising SEQ ID NO:2.

18. (Previously Presented) An isolated antibody produced by immunizing an animal with a polypeptide having an amino acid sequence as set forth in SEQ ID NO:2, which antibody specifically binds to the polypeptide.

19. (Previously Presented) An isolated antibody that selectively binds the hydrophilic domain of an mth polypeptide between hydrophobic domains five and six of SEQ ID NO:2.

20. (**Currently Amended**) An isolated antibody that selectively binds to a polypeptide comprising amino acids 407-420 of SEQ ID NO:2, wherein the antibody selectively binds to the polypeptide consisting of amino acids 407-420 of SEQ ID NO:2.

21. (**Currently Amended**) A kit comprising an antibody which selectively binds to a polypeptide selected from the group consisting of:

a) a fragment of the amino acid sequence of SEQ ID NO:2, wherein 1) the fragment is a GPCR, 2) failure to express the fragment results in embryonic lethality in *Drosophila*, or 3) the fragment is a GPCR, 2) failure to express the fragment results in embryonic lethality in *Drosophila*.

b) a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes in 0.1 x SSC at 68°C to a nucleic acid molecule comprising SEQ ID NO:1, wherein 1) the polypeptide is a GPCR, 2) failure to express the polypeptide results in embryonic lethality in *Drosophila*, and 3) hypomorphic expression of the polypeptide increases resistance to heat stress in *Drosophila*; and

c) a polypeptide comprising an amino acid sequence which is at least 85% homologous to the amino acid sequence of SEQ ID NO:2, wherein 1) the polypeptide is a GPCR, 2) failure to express the polypeptide results in embryonic lethality in *Drosophila*, and 3) the polypeptide modulates the effect of hypomorphic expression of the polypeptide increases resistance to heat stress in *Drosophila*,
and instructions for use.

22. (Previously Presented) A kit comprising an antibody which selectively binds to:

- a) a polypeptide comprising SEQ ID NO:2;
- b) a polypeptide comprising amino acid residues 1 to 200 of SEQ ID NO:2;
- c) a polypeptide consisting of an antigenic fragment of SEQ ID NO:2; or
- d) a polypeptide consisting of a fragment of SEQ ID NO:2, wherein said fragment comprises at least 50 contiguous amino acid residues of SEQ ID NO:2.